

WHAT IS CLAIMED IS:

1. A remotely activated microphone arrangement for use with a vehicle-mounted surveillance system including a recording device, comprising:
  - a microphone for capturing audio;
  - a switchable RF transmitter coupled to receive the captured audio from the microphone and arranged to transmit the captured audio as an RF data signal when switched into a transmitter mode of operation;
  - a switch for switching the RF transmitter into the transmitter mode in response to a received RF activation signal; and
  - an RF receiver coupled to the switch and arranged to receive the RF activation signal from the vehicle-mounted surveillance system.
2. The microphone arrangement of claim wherein the microphone, switchable RF transmitter, switch and RF receiver are disposed in a body-wearable housing.
3. The microphone arrangement of claim 1 wherein the microphone, switchable RF transmitter, switch and RF receiver are disposed in a housing that is arranged to be removably inserted into a substantially close-fitting holster.
4. The microphone arrangement of claim 3 wherein the holster includes a clip for removably attaching the holster to an article of clothing such as a belt.

5. The microphone arrangement of claim 1 wherein the RF activation signal is indicative that the recording device is in a recording mode of operation.

6. The microphone arrangement of claim 5 including a visual display for indicating that the recording device is in the recording mode of operation.

7. The microphone arrangement of claim 5 wherein the recording device is selected from the group consisting of tape recorders, video cassette recorders, hard-disk drives, electronic memory, or optical drives.

8. The microphone arrangement of claim 1 wherein the RF transmitter transmits using a digital spread spectrum transmission technique.

9. The microphone arrangement of claim 8 wherein the digital spread spectrum transmission technique is selected from the group consisting of frequency hopping or direct sequence.

10. The microphone arrangement of claim 1 further including connector for synchronizing with an external controller to exchange a security code for transmitting the RF data signal as a secure signal.

11. The microphone arrangement of claim 10 wherein the security code is a spreading code.

12. The microphone arrangement of claim 1 further including an audible alert generator.

13. The microphone arrangement of claim 12 wherein the audible alert generator is arranged to generate an alert to indicate the successful exchange of a security code between the wireless microphone arrangement and an external controller.

14. The microphone arrangement of claim 12 wherein the audible alert generator is arranged to generate an alert to indicate that that wireless microphone arrangement has moved out of radio contact range with the vehicle-mounted surveillance system.

15. The microphone arrangement of claim 12 wherein the audible alert generator is arranged to generate an alert to indicate that a battery operably coupled to the wireless microphone arrangement has dropped below a threshold state of charge.

16. The microphone arrangement of claim 3 further including a battery disposed within the housing.

17. The microphone arrangement of claim 16 wherein battery is selected from the group consisting of Ni-CAD batteries, NiMH batteries, LiOn batteries or non-rechargeable batteries.

18. The microphone arrangement of claim 16 further including an interface for operably coupling the battery to an external battery charger.

19. The microphone arrangement of claim 16 further including a visual display for indicating a charge level of the battery.

20. The microphone arrangement of claim 1 wherein the switch is incorporated within a controller.

21. The microphone arrangement of claim 20 wherein the controller includes a audio codec.

22. The microphone arrangement of claim 1 further including an interface for an external microphone.

23. A remotely activated microphone arrangement for use with a vehicle-mounted video surveillance system including a recording device, comprising:

a wireless microphone for transmitting captured audio in an RF data signal;

and

a controller for activating the wireless microphone in response to a received RF activation signal that is transmitted from the vehicle-mounted video surveillance system when the recording device is recording.

24. The microphone arrangement of claim 23 wherein the wireless microphone and controller are disposed in a housing incorporating a visual display.

25. The microphone arrangement of claim 24 wherein the housing is arranged to be removably inserted into a substantially close-fitting holster having a means for removably attaching the holster to a user.

26. A method of operating a wireless microphone used with an in-car video system including a car-mounted camera and recording device, the method comprising the steps of:

in response to a received RF activation signal, capturing audio with the wireless microphone; and

transmitting the captured audio to the recording device to provide a recordable audio soundtrack corresponding to an image captured by the car-mounted camera.

27. The method of claim 26 further including the steps of receiving an RF deactivation signal and deactivating the wireless microphone.

28. The method of claim 26 further including the steps of generating an audible alert to indicate that the wireless microphone has moved out of radio range with the in-car video system.

29. The method of claim 26 further including the step of generating an audible alert to indicate that the wireless microphone has a state of battery charge below a threshold.

30. The method of claim 26 further including the step of displaying a visual indication of a state of operation of the recording device.

31. The method of claim 26 further including the step of displaying a visual indication of a state of battery charge of a battery disposed within the wireless microphone.

32. The method of claim 26 further including the step of synchronizing the wireless microphone with an external base station to exchange a security code between the wireless microphone and base station to enable secure RF transmission between the wireless microphone and the in-car video system.

33. An in-car video surveillance system, comprising:

a camera mounted in the car for capturing a video image;

a recording device mounted in the car and operably coupled to the camera to receive a signal representative of the captured video and arranged to receive a signal representative of the captured audio for recording the captured video image and captured audio; and

a controller for remotely switching a bi-directional wireless microphone into audio capture mode by using an RF activation signal that is transmitted to the bi-directional wireless microphone when the recording device is operated in recording mode.

34. In a vehicle-mounted video surveillance system including a recording device, a vehicle-mounted base station for use with a wireless microphone, the wireless microphone being operational-mode switchable in response to an RF activation signal, comprising:

an input coupled to receive an operational status signal from the video surveillance system indicative of an operational status of the recording device;

a controller coupled to the input to receive the operational status signal and for generating an RF activation signal when the operational status signal indicates that the recording device is in recording mode; and

an RF transmitter arranged for transmitting the RF activation signal to the wireless microphone to switch the wireless microphone into a transmit mode from a standby mode.

35. The vehicle-mounted base station of claim 34 including a visual indicator for indicating of a state of battery charge of a battery disposed within the wireless microphone.

36. The vehicle-mounted base station of claim 34 including a visual indicator for indicating a successful exchange of a security code between the wireless microphone and the vehicle-mounted base station.

37. In a vehicle-mounted video surveillance system including a recording device, a method of operating a vehicle-mounted base station for use with

a bi-directional wireless microphone, the bi-directional wireless microphone being operational mode-switchable in response to an RF activation signal, comprising:

receiving an operational status signal from the video surveillance system indicative of an operational status of the VCR; and

generating an RF activation signal when the operational status signal indicates that the recording device is in recording mode;

transmitting the RF activation signal to the bi-directional wireless microphone to switch the wireless microphone into an audio transmission mode.

38. The method of claim 37 including the further step of indicating a state of battery charge of a battery disposed within the wireless microphone.

39. The method of claim 37 including the further step of indicating a successful exchange of a security code between the wireless microphone and the vehicle-mounted base station.

40. A bi-directional wireless microphone system for use in a vehicle video surveillance system, comprising:

a body-wearable wireless RF transceiver including a microphone for capturing audio, the transceiver arranged to transmit an RF data signal including the captured audio and to receive an RF activation signal; and

a base unit mountable in the vehicle and arranged to receive the RF data signal from the transceiver and to send the RF activation signal to the transceiver.



41. A method of operating a vehicle-mounted surveillance system including a wireless microphone, recording device and camera, the method comprising the steps of:

operating the recording device and the camera to make a video record; and

sending an RF control signal to the wireless microphone to activate the wireless microphone to thereby make a simultaneous audio record with the video record.

42. The method of claim 41 including the step of visually displaying a status parameter of the vehicle-mounted surveillance system.

43. The method of claim 42 wherein the status parameter includes recording device operation status.

44. The method of claim 42 wherein the status parameter includes microphone battery level status.

45. The method of claim 41 including the step of automatically activating the vehicle-mounted surveillance system upon actuation of the emergency system of the vehicle.

46. The method of claim 41 including the step of automatically activating the wireless microphone upon actuation of the emergency system of the vehicle.

47. The method of claim 41 including the step of automatically deactivating the wireless microphone upon deactivation of the vehicle-mounted surveillance system.

48. A method of operating an in-car video system, comprising the steps of:

powering on a wireless microphone to enable the wireless microphone to accept a security code, the wireless microphone having a synchronization connector;

placing the wireless microphone in a base station having a connector to operably engage with the synchronization connector; and

exchanging a security code between the docking device and wireless microphone to enable secure RF transmission between the wireless microphone and the in-car video system.

49. The method of claim 48 further including the step of removing the wireless microphone from the docking device and placing the microphone in ready mode.